

## **IN THE SPECIFICATION:**

### **Please amend the paragraph beginning at page 1, line 10 as follows:**

The marine snails of the genus *Conus* (cone snails) use a sophisticated biochemical strategy to capture their prey. As predators of either fish, worms or other molluscs, the cone snails inject their prey with venom containing a cocktail of small bioactive peptides. These toxin molecules, which are referred to as conotoxins, interfere with neurotransmission by targeting a variety of receptors and ion-channels. The venom from any single *Conus* species may contain more than 100 different peptides. The conotoxins are divided into classes on the basis of their physiological targets. To date, ten classes have been described. The  $\omega$ -conotoxin class of peptides target and block voltage-sensitive  $\text{Ca}^{2+}$ -channels inhibiting neurotransmitter release. The  $\alpha$ -conotoxins and  $\psi$ -conotoxins target and block nicotinic ~~ACh~~ acetylcholine (ACh) receptors, causing ganglionic and neuromuscular blockade. Peptides of the  $\mu$ -conotoxin class act to block voltage-sensitive  $\text{Na}^{+}$ -channels, inhibiting muscle and nerve action potentials. The  $\delta$ -conotoxins target and delay the inactivation of voltage-sensitive  $\text{Na}^{+}$ -channels, enhancing neuronal excitability. The  $\kappa$ -conotoxin class of peptides target and block voltage-sensitive  $\text{K}^{+}$ -channels, and these may also cause enhanced neuronal excitability. The conopressins are vasopressin receptor antagonists and the conantokins are ~~NMDA~~ N-methyl-D-aspartate (NMDA) receptor antagonists. More recently, the prototype of a new  $\gamma$ -conotoxin class, which targets a voltage-sensitive nonspecific cation channel, and of a new  $\sigma$ -conotoxin class, which antagonises the  $5\text{HT}_3$  receptor, have been described.

### **Please amend the paragraph beginning at page 1, line 29 as follows:**

It has now been found that a new class of conotoxin exists, hereafter referred to as the  $\rho$ -conotoxin class, which are characterised by having  $\alpha_1$ -adrenoceptor antagonist activity.  $\alpha_1$ -Adrenoceptors play important roles in many physiological and pathophysiological processes of the cardiovascular and urogenital systems, including myocardial inotropy and chronotropy, cardiac hypertrophy and arrhythmias, vasoconstriction, smooth muscle contraction and prostate disease.  ~~$\alpha_1$ -Adrenoceptor~~  $\alpha_1$ -adrenoceptor antagonist drugs are of use as both tools for basic research and as therapeutic agents.

**Please amend the paragraph beginning at page 2, line 22 as follows:**

Preferably the  $\rho$ -conotoxin peptide is  $\rho$ -TIA or a derivative thereof.  $\rho$ -TIA may be isolated from the venom duct of the fish hunting cone snail *Conus tulipa*. It is a peptide comprising 19 amino acids and contains two disulphide bonds. The amino acid sequence of  $\rho$ -TIA is as follows.

FNWRCCLIPACRRNHKKFC ~~SEQ ID NO: 1~~  
(SEQ ID NO: 1)

The C-terminus may be a free acid or amidated.

**Please amend the paragraph beginning at page 3, line 4 as follows:**

The term "derivative" as used herein in connection with naturally occurring  $\rho$ -conotoxin peptides, such as  $\rho$ -TIA, refers to a peptide which differs from the naturally occurring peptides by one or more amino acid deletions, additions, substitutions, or side-chain modifications. Such derivatives which do not have selective  $\alpha_1$ -adrenoceptor antagonist activity do not fall within the scope of the present invention. One such inactive derivative is the truncated  $\rho$ -TIA as shown below:

CCLIPACRRNHKKFC ~~SEQ ID NO: 2~~  
(SEQ ID NO: 2)

Studies of C-terminal truncation of  $\rho$ -TIA have indicated that the residue at position 4 may be important for binding. Accordingly peptides in which the arginine residue at position 4 is retained or substituted with another amino acid with a positive charge are preferred.

**Please amend the paragraph beginning at page 4, line 15 as follows:**

As stated above the present invention includes peptides in which one or more of the amino acids has undergone ~~sidechain~~ side chain modifications. Examples of side chain modifications contemplated by the present invention include modifications of amino groups such as by reductive alkylation by reaction with an aldehyde followed by reduction with  $\text{NaBH}_4$ ; amidination with methylacetimidate; acylation with acetic anhydride; carbamoylation of amino

groups with cyanate ; trinitrobenzylation of amino groups with 2, 4, 6-trinitrobenzene sulphonic acid (TNBS); acylation of amino groups with succinic anhydride and tetrahydrophthalic anhydride; and pyridoxylation of lysine with pyridoxal-5-phosphate followed by reduction with NaBH<sub>4</sub>.

**Please amend the paragraph beginning at page 28, line 25 as follows:**

The oligonucleotide primer RHO-1B was designed from the mature ρ-TIA peptide sequence. The relationship of the oligonucleotide to the peptide is as follows, together with the oligonucleotide sequence:

ρ-TIA            -        FNWRCCLIPACRRNHKKFC                                ~~SEQ ID NO: 1~~  
(SEQ ID NO: 1)

HO-1B        5' -        RCARAAYTTYTTTGTGRTT - 3'                                ~~SEQ ID NO: 3~~  
(SEQ ID NO: 3)

AP1            5' -        CCATCCTAATACGACTCACTATAGGGC-3'                                ~~SEQ ID NO: 4~~  
(SEQ ID NO: 4)

(where N=A/C/G/T, R=A/G, Y=C/T,)

Polymerase Chain Reaction (PCR) was carried out using the oligonucleotide RHO-1B in combination with the AP1 oligonucleotide on cDNA templates derived from the mRNA isolated from coneshell venom ducts. The PCR products, which represent the 5' region of the ρ-TIA gene were isolated, purified, cloned into bacterial vectors and sequenced. Gene sequence for ρ-TIA was obtained from *C. tupila* (Figure 5).

**Please amend the paragraph beginning at page 29, line 21 as follows:**

The DNA sequences for ANCHOR is:

ANCHOR        5' – AACTGGAAGAATTCGCGGCCGCAGGAAT -3'                                ~~SEQ ID NO: 5~~  
(SEQ ID NO: 5)